

Solar Irrigation for Agriculture Resilience in South Asia (SoLAR-SA) Project

India - Country Project Management Committee (C-PMC) | 6th Meeting

Date: 27 July 2023 | Time: 02:00 PM--03:00 PM (IST)

Venue: Teams Meeting

Meeting Agenda

<i>Sl. No.</i>	<i>Agenda</i>	<i>Presenter</i>	<i>Allotted Time</i>
1.	<i>Opening Remarks</i>	<i>Dr Alok Sikka</i>	<i>5 mins</i>
2.	<i>India Update</i>	<i>Dr Deepak Varshney</i>	<i>10 mins</i>
	<i>Activity: Groundwater Sustainability Studies</i>	<i>Md Faiz Alam</i>	<i>10 mins</i>
	<i>Activity: Toward Sustainable Groundwater Management through Analytical Modeling in Botad Region of Gujarat</i>	<i>Syed Adil Mizan</i>	<i>Mins</i>
3.	<i>Farmer Responses to Solar Irrigation in India</i>	<i>Veena Srinivasan</i>	<i>15 mins</i>
4.	<i>Feedback and Suggestions by CPMC Members</i>		
5.	<i>Closing Remarks</i>	<i>Dr Alok Sikka</i>	

List of Participants

Sl. No	Name	Role	Institution	Attendance
1	Dr Alok Sikka	Chair	IWMI Country representative	Yes
2	Rajendra Vala	Member	Representative of GUVNL	Yes
3	Veena Srinivasan	Member	Representative of ATREE	Yes
4	Divya Kashyap	Member	SDC Representative	Yes
5	Dr Ratan Jain	Member	Representative of GWRDC	Yes
6	Dr Tushaar Shah	Member	IWMI	Yes
7	Nilanjan Ghose	Member	Representative of GIZ	No
8	Md Faiz Alam	SoLAR India team	IWMI	Yes
9	Deepak Varshney	Member	IWMI	Yes
10	Anurag Banerjee	SoLAR India team	IWMI	Yes
11	Kriti Sharma	SoLAR India team	IWMI	Yes
12	Syed Adil Mizan	SoLAR India team	IWMI	Yes
13	Shibani Chattopadhyay	Comms Support	IWMI	Yes
14	Aariz Raza	Comms Support	IWMI	Yes

Abbreviations: ATREE is Ashoka Trust for Research in Ecology and the Environment; GIZ is Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH; GUVNL is Gujarat Urja Vikas Nigam Limited; GWRDC is Gujarat Water Resources Development Cooperation; IWMI is International Water Management Institute; SDC is Swiss Agency for Development and Cooperation

Welcome Remarks

Dr Deepak Varshney, IWMI

- Dr Varshney started the meeting by sharing the agenda of the meeting to set the context.

Dr Alok Sikka, IWMI

- He welcomed everyone on behalf of the SDC-SoLAR project and appreciated the support and guidance being offered by the different members.
- It is the 4th year of the project, and due to the pandemic, the project is on a no-cost extension and the first phase of the project is getting over by end of next year and reminded everyone that it is also a crucial time since the evaluation team appointed by the SDC is doing a site visit in Gujarat and Bangladesh. He thanked everyone for the project support, especially Mr Vala and the others.
- He exhorted the group to provide suggestions and those suggestions and inputs could be used for the project going forward in the second phase. He explained the process of evaluation for the benefit of the CPMC members who would be interviewed for the process and explained that these inputs would be put to good use in the design phase of the second phase of the project.
- He reminded them that as discussed with Mr Vala, in another meeting with MD DISCOM and asked Dr Varshney to follow up with Vala for the findings and to present all the findings and implications, and to fix up a meeting regarding the same. He also mentioned that due to the cyclone or some such issue, the meeting was postponed.
- He explained the presentation and spoke of the three key presentations. Dr Varshney and his colleagues would be talking about the groundwater and mentioned that in the last meeting in Gandhinagar, some kind of analytical approach was followed and especially in Botad and Anand. Also, Adil Mizan would present on the groundwater modeling and mentioned that Veena Srinivasan would present on the work that their team at ATREE has done. With that, he handed over the floor to Dr Varshney for his presentation.

Dr Deepak Varshney

- He set the tone for the presentation by outlining his presentation, where he talked about the first two activities of impact evaluation and training of farmers followed by a presentation by Faiz Alam and Dr Mizan who would present on groundwater sustainability.
- In the India impact evaluation exercise done in the India component, which focused mainly on evaluating the Suryashakti Kisan Yojana (SKY) scheme, which provides grid connected solar pumps to the farmers.
- He mentioned the 4 research studies which cover all the key aspects of the evaluation, and we are trying to understand the SKY scheme and understand how the technical and financial models of the SKY scheme work on the ground?
- In the second study, he talked about how they were trying to assess the drivers of electricity generation under SKY and climatic factors play a significant role, also learning factors and utility governance related factors in driving solar electricity in the solar generation. And trying to analyze

and identify factors on how to improve efficiency of farmers in terms of electricity generation. The third part talks about groundwater sustainability and assesses the impact of SKY on agricultural outcomes.

- In the SKY scheme, one of the key advantages to farmers is that they are getting daytime electricity. This has major implications for productivity, water use and the risks. In this respect, the household survey in Gujarat is completed and their analysis is in progress. As for the second activity, which is training of farmers in India, we have trained 17150 farmers in 45 SKY Feeders and will be organizing a training workshop with stakeholders in August 2023.
- In terms of outcomes and deliverables, the training experience report, the feedback from the farmers have been collected and completed, for the second, we are trying to assist the impact of this capacity building intervention on energy outcomes such as solar energy generation and average consumption. This is planned to be completed by October 2023.
- He quickly went over the solarization of grid connected agricultural pumps which was first experimented with in India at Dhundi with the help of MGVCL in 2015. Drawing on this data, the government of Gujarat implemented the SKY scheme and one of the key objectives of the scheme is to provide farmers with a key source of data. It provides an additional source of income by selling excess solar energy to the grid. This is the technical model of this scheme.
- As part of this scheme, each farmer receives capacity 1.25 times the contract load and the SKY farmer receives 12 hours of power while non-SKY farmer receives 8 hours of power. In the SKY financial model, 5% is the upfront cost and 65% loan taken by government of Gujarat on behalf of the farmer and a 30% central government subsidy is given. The loan is at the 6% per annum tariff by discount for 25 years is at Rs 3.5 per kWh in the evacuation-based incentive provided by the government of Gujarat for the first seven years at the rate of Rs 3.5 per unit. In understanding the implementation of the SKY scheme, we must see how inclusive the SKY scheme is.
- The study found that large land ownership increases the participation rate in the scheme. There are equity concerns of lower participation from small and marginal land holding farmers, mainly due to capacitor capital constraints. The reasons for non-farmer enrollment are outlined. Farmers with higher education qualifications are more likely to participate. 28% reported it as convergent, 27% reported capital constraints and late decisions.
- It shows that this technical model of the SKY works well on the ground because clearly in 2020, 19% of the total farmers evacuated energy and highlighted the percentage of SKY beneficiaries who earned an income after the loan repayment production. This is the positive income after the loan repayment deduction, how much they are consuming for their own agricultural purposes.
- In 2000-2021, 58% farmers are earning positive income despite paying this loan repayment. For the sake of argument, we can point out why 90% of the farmers are evacuating to the grid and not all. This data is a result of field visits and conversations with the farmers, where we are collecting and started analyzing the household survey data from the Gujarat right.
- The reason for this is that farmers are using the daytime power, and their agricultural productivity is enhancing while some are selling water, so these kinds of reasons are coming up for why farmers are not getting the requisite income.
- He pointed out the drivers of solar energy generation – a) utility governance b) farmer-related factors c) cleaning the panel regularly d) formal learning.

- After the training, the SKY farmers uptake of the SKY mobile application has increased significantly. Farmers are regularly checking their generation, evacuation, and consumption. The results of the utility official survey point in the same direction. As far as governance related factors are concerned, if they malfunction and timely services are provided to the farmers, then it is correlated to performance issues. Clearly, governance matters for solar energy generation, along with the other factors. So, we are trying to argue that just like UGVCL and PGVCL, which are the top performers, and they have a large agriculture consumer base, and they are focusing more on solving queries on time along with utility governance related issues. Compared to MGVCL, DGVCL, which have a very small consumer base in the agriculture sector, are not focusing as much as UGVCL and PGVCL.
- To contextualize the SKY scheme, the PM KUSUM was launched in 2019 and this scheme has three components – create a capacity of 10,000 MW of decentralized ground mounted triphases connected to your power plants of individual plant's size.
- As far as the implementation of the PM KUSUM C scheme is concerned, Maharashtra has implemented 61,514 which is followed by Rajasthan and Haryana, while in case of PM KUSUM, we can see that the return to solarization from the uptake is very low while Rajasthan has implemented only 13,175. So, we need to understand why PM KUSUM C or PM KUSUM B since even in PM KUSUM B, the target is to implement 2,000,000 solar radiation function in India.
- So, we have done the training in two phases, pilot and the main training and he shared some of the farmers responses feedback collected by GERMI. They clearly said that the training was highly beneficial to all farmers and those who are unfamiliar with the mobile application earlier were now using the mobile application on their phone.
- The farmers are strongly requesting regular additional training and showing a keen interest in expanding their knowledge in similar areas. These are some of the key benefits farmers reported as a response and feedback.
- Varshney explained that they had done the basic impact analysis of the training. The blue bars are the control feeders and the orange bars on the graph indicate where the training is not conducted. We have conducted training, so generation per day in the treatment group is significantly increased from 3.16 to 3.30, and at the same time, the consumption per day has declined significantly. As the generation increases, and the consumption increases, it will result in increasing their income.

Dr Alok Sikka

- He welcomed suggestions and questions from the members on this component.

R J Vala

- He highlighted the difference in the SKY scheme that there was no restriction on the pumps to be solarized, while in the PM KUSUM scheme, there is no restriction but they're giving the central finance assistance or subsidy up to 7.5 HP. Say for example, I want to solarize 25 HP room set, then the farmer has to bear the rest of the amount for the solar part. The solar capacity is up to two times of the pump capacity in kilowatts and if you convert roughly 10 HP from set into the kilowatt, it will be 7.4 kW and multiply it two times so that will be the solar capacity. He pointed out that there were two major differences technically – in PM KUSUM, restriction of pump capacity for the CFA, and solar capacity is increased up to two times of the pump capacity. The second difference is that in the SKY Scheme, there

was an upfront contribution of 5% and the state government took the loan of 65% from NABARD on behalf of farmers.

- However, in KUSUM, there is a provision of 10 percentage upfront and 30% and loan and their total percentage is 40. The farmer has to arrange a total of 40 percentage and if the state government denies giving out loan (kind of support) while in the SKY scheme, it was already mentioned that the state government will give 65% a lot in pharma didn't know to arrange any money, only they have to arrange 5 percentage.
- SKY is like individual level solarization and there are issues for the individual level solarization like maintaining voltage level, cleaning of the panels, etc, though there are clearly outlined benefits too. The generation is where the load is, but in the KUSUM cover federal level solarization, we install only MW scale plan for a particular feeder, 1 feeder or two or three feeders.

Dr Alok Sikka

- He thanked RJ Vala for the clarification on the scheme. He also sought out cooperation from R J Vala, Nilanjan Ghosh and Tushar Shah, Veena Srinivasan, and others to push for this scheme and to keep the suggestions coming in. He mentioned the importance of impressing upon (the usage of these kind of instruments for the scheme to have more uptake among farmers and the people who were handling the PM KUSUM scheme.

RJ Vala

- Deepak Varshney, along with Christopher Scott and Manfred visited the corporate office and meeting our joint MD where we discussed a new innovative model where we combine the ESCO part and the CapEx part and develop a hybrid model. He mentioned the lacuna in the KUSUM C scheme and the SKY scheme that the farmer would not invest a huge amount of money in the SKY scheme.
- There was only five percentage part up to be paid up front and farmers forget that they say that 65% is the loan part. In the KUSUM scheme, the farmer has to pay 40% and that's why they are not coming because the financial commitment is two to three lakh rupees, which is 40%. So, we devised 11 hybrid models that although there is 30% subsidy from the central government, 30% from the state government and the farmer has to invest only 40%. But out of that 40%, the farmer will pay only five percent and the ESCO developer will invest 35 percent. So, whatever is the benefit from the income for exporting energy annually, the 80-percentage part will go with ESCO and 20 percent of that income will go to the farmer.
- This will be a win-win situation where the farmer needed to invest upfront less, and the system will take care of it in the time span of 25 years.

Dr Sikka

- He said that a few years back, there was a discussion in the Ministry of Agriculture, where the PM KUSUM directors were there, and the discussion was more on the agrivoltaics or Agri-PV but the suggestion was made to them, and he was instrumental in suggesting to have this component being shown at ESCO model, but I do not know after that anything will happen because on the component B right now, there is no provision for the ESCO model by the government in component B or is it there?

Nilanjan Ghosh

- Based on my understanding, there is no ESCO model as far as component B is concerned and coming

back to the earlier question, on you know how this can be taken up as far as PM KUSUM is concerned, broadly right now, as Mr Bala also mentioned, that MNRE's primary focus for component C is on federal level solarization and not individual plan solarization. However, given the learnings from this particular project, I think this can be taken up and I think Mr Vala is also part of multiple meetings that MNRE conducts. So, he can be the champion of taking this forward and if necessary, the IWMI team can also support in these kinds of discussions where good practices are shared within states through MNRE.

Dr Sikka

- He thanked everyone for the extremely pertinent points, and mentioned that in Component C, there is a major focus, is right now because that's easier to connect and requested Mr Vala to look into it. He spoke about getting connected to this new person who joined as a director or Deputy Secretary in MNRE looking after this PM KUSUM scheme, whom he had met in the G20 energy transition meeting in Goa and expected Mr Vala to keep pushing for it.
- This has been suggested for a long time, and wondered why we can't have a similar ESCO model for the half grid solar radiation pumps. This will be taken up with Mr Vala as one of the components for the future studies while he thanked everyone for their suggestions.

Nilanjan Ghosh

- He asked a question that in the presentation, we saw is that the capacity building being done for the farmers and it's very clear that what is highlighted is that the energy use has reduced, and therefore the savings from the energy is basically the savings that the farmer is getting. Now if some light could be thrown to reflect on what is the objective of this training and what are the other co-benefits?

Dr Alok Sikka

- This is generation efficiency, and with the maintenance and the cleaning of the panel which was one objective. As you have seen, and with the other maintenance practices, as you have noticed, besides consumption lowering, there is an increase in generation also. This could be attributed to a certain extent to the maintenance and the cleaning of the panel and other devices.

Dr Deepak Varshney

- He said that before this training, most of the farmers were not able to monitor their generation, consumption, and evacuation. And there was detailed training on how to use this mobile-based application, SKY, which is being developed by GUVNL. It's a very good application that will give you a daily report on the generation of consumption evacuation. After the training, farmers installed these applications on their mobile and now, they are tracking and are very cautious about consumption. Also, cleaning panels on a regular basis ensures that there is a positive and significant effect on the generation. Also, there was an issue on whom to approach and how to approach if faced with some difficulties in the solar panels. So, what is the mechanism to approach?
- And the third point is to just acquaint them and train them for minor maintenance, some basic knowledge on this. Most of the farmers are not aware of the financial models and after this training, the modalities of the financial model need to be pointed out, so that now they are in a better position to understand the scheme.

Question: Was the consumption lowering because farmers who were trained developed greater trust in the system, that they would be paid on time?

Dr Varshney

- As far as payments are concerned, they are getting, and settling the payments on time. There are no complaints on that front, and they are clear in terms of payments, which is assured because of the involvement of GUVNL.

Dr Alok Sikka

- With that, we move on to the third component, which is on the ground sustainability studies, which as we know is a very complex thing because of the many, many other factors. Faiz and Adil will be sharing some of the progress made on that.

Faiz Alam

- He said that the basic question for everyone who works in solar is whether if we start upscaling solar, will that negatively impact the groundwater system and the assumption starts from the history seen in Punjab and other parts with the free electricity, which has led to this water, energy, food, complicated Nexus leading to overtime and depletion of groundwater. This is one of the initial motivations for this grid connected solar was that if incentives were given to the farmer to evacuate, abstraction will be less. So, the evaluation is from the SKY perspective whether this has happened or not or what is the scenario like. What we have done is that instead of looking at the world data, what we have been doing is intensive monitoring at new locations. We are doing our studies in Anand and Botad, where we selected 4 feeders, 11 Sky feeders, and one control feeder. We did a census of farmers and selected 160 farmers.
- The study instrumented part of these farmers and have been regularly monitoring these farmers for the last two years in terms of energy usage. The main method employed was that there was continuous testing of these farmers to know how much water is pumped per unit of energy.
- The main motivation is that if we develop relationships between how much energy is linked with how much water is abstracted, we can compare control farmers and see if introduction of SKY has led to less or to more pumping. He also said that if we start upscaling Solar on a larger scale, we will be taking the aid of numerical and analytical modeling to upscale the result on a much larger area.
- He presented a snapshot of the study – a sensor 400 farmers monitoring, 160 of them have installation at 40 or location. The data is collected from 400 pumps and energy tests around 900 groundwater level readings more than 1,000 readings of their cropping pattern for each season. He explained the data collection process, which is ongoing, and we are in the third year of our data collection out of which about two years of data collection has already been done. What we are able to see is that we have developed and validated our conversion factor, which is our aim here.
- That is, how much cubic meter of water is pumped per unit of energy consumed, and with the energy data available. We are multiplying this convergence factor with the energy used to know how much volume of water the abstracting. What would you see is two different sites in Botad, Hard Rock aquifers, the range is up to 8- or 7.5-meter cube per energy per kilowatt of energy use whereas in Anand, which is alluvial aquifers, larger set of palms Tanishq 20 HP for 20 HP pumps, it's very highly energy inefficient.
- He also mentioned that the farmers are only abstracting around 4 cubic meter per unit of energy, whereas in case of 10HP pump, they will take up twice as much of energy. So, from these results, you can see there are some issues or there are some.
- It's clear that there are some opportunities to enhance efficiency of the pump – right sizing the pump which can lead to more evacuation by the farmers, more income. As such, this study developed the relationship to see what are the factors that impact this relationship. It's an important finding that if there is data on the pump type and groundwater levels that we already have, this relationship can help explain 70% of the variance in data. And 90-92% of the variance in the data can be explained

using this relationship. This relationship is being used to estimate how much volume farmers are pumping for a larger set of data.

- Alam explained the error it gives in case of Botad, where we can estimate farmers' volume energy use within an error estimation of plus minus 5%. Whereas in the case of Anand, it's within plus minus 10% where we can estimate the volume for farmers.
- The study applied this relationship to the larger set of farmers data to see how much water pumping is being done in Botad. Farmers were pumping approximately 300, SKY farmers, around 10% less, but because of the sample size and the large variation, no significant difference is seen.
- The SKY farmers are not abstracting more, but at the same time we don't see any significant evidence whether they are abstracting less. Similarly in Anand. The cropping pattern is tobacco and wheat.
- The average farmer is pumping around 2700 mm in terms of known SKY farmers. Again, the same results as the Botad SKY farmers. In SKY farmers, we see 10% less, but because of large variation we don't see any significant difference though on an average, SKY farmers are pumping 10% less.
- Another main reason for seeing such large numbers in Anand is that in Anand there is a large water market. These numbers include the water structure, water abstracted for their own farms, plus the water they're selling to the other farmers. However, there is no clear evidence of introduction of solar leading to more abstraction, but at the same time we don't see very significant evidence of SKY farmers abstracting, much less.
- There is some uncertainty on the relationship side, converting energy into water based on developed relationship but there is also the energy side. Right now, there is a gap, so we are filling in data in terms of energy use correcting data, but this is what the results hold till the last year, and we are updating the results for this year.
- The main point is since we know from the smaller feeders – what impact the SKY scheme of solar is having, the question is how to upscale this result to a larger scale?

Adil Mizan

- The idea was to develop an analytical model in the Botad region because it is tough to generate a numerical model is complex in Hard Rock. The model is easy to use, and anybody can use it, and we have developed this tool in Excel so the Groundwater components can be fed into different sheets, and according to that it will compute the groundwater budget. Basically, the tool is based on the water level fluctuation method and groundwater balance. So first, this equation has been used in the dry season where the specific yield of the aquifers can be estimated? We also know that the monsoon season in India is very specific to June and September to October.
- In the dry season, we can make the recharge from the rainfall since it would be negligible. In that condition, we can estimate the specific parameters of the aquifer, and since it's an intrinsic property and doesn't change with time. In the next season, when data is available, the fluctuation from the kharif season can be seen, and natural recharge estimated.
- He spoke about the estimated specific yield and how it is showing 52.8% and, on an average, 0.6% which is quite close to the actuals for the basalt. These kinds of tools have been well-tested in aquifers.

Dr Alok Sikka

- He explained that rather than using any mod flow or any other model which we know is going to be more troublesome, Adil has done a more site-specific visit based, analytical, which is essentially, field data from specific sites.

Dr R.C. Jain

Question: Where you have taken a projection of the 50% of the water demand being made from surface

water, is it a projection made?

Answer: Dr Sikka mentioned that these are just hypothetical scenarios being made.

Dr R.C Jain

He agreed with the answer but felt that the hypothesis should also draw upon something which is already known.

Faiz Alam

He elaborated further by stating that this is one of the reasons that one of the scenarios is that the village we are working in is coming under this particular scheme where they are laying out the pipelines and the water comes from the dam. So, the farmers won't be abstracting but we are assuming they still do so we took a conservative scenario that 50%, they will do groundwater, 50% will come through grid.

Dr Alok Sikka

Dr Sikka requested to have suggestions to improve upon the scenarios.

Dr R.C Jain

He suggested having more possible options for generating the scenarios instead of just assuming a 50% component.

Dr Alok Sikka

This is also because since he has been working, this is just a beginning for scenario building and we will be talking to people like you and the others in the field to come up with more plausible scenarios and then try to run it through the scenario, because this is work in progress and would want your feedback.

Dr R.C. Jain

What impact it would have? In the second aspect, regarding the long-term pumping would lead to declining water levels over the area and if there is no other intervention, which is implemented? So, he asked about the anticipated decline in water levels, with business-as-usual scenarios prevailing, and what are the quantifications for the kind of substitution required, if that could be attempted. That would help in choosing the options from the scenario, the various scenarios suggested and maybe some of the scenarios could be more approximate or nearer to what is going to happen in real time in the future projection for the declines?

Dr Alok Sikka

All this scenario will be done by looking into stakeholder consultations, and the data that we see on field from the solar work. He appreciated Dr Jain's point of multiple scenarios and mentioned that there is a decline in the water table, and then, what are the suggestive measures to mimic and simulate it through our model? These are the few methods which you don't have to adopt, then the decline will not be there. And, expressed hope to share those simulation modeling results as well as for other regions it is allocated for.

Veena Srinivasan

She reinforced what Doctor Jain said to encourage everyone to be imaginative in the scenarios. After all, the cost of making a scenario is 0 or very little. So, she exhorted everyone to not be too conservative in imagining what is possible. Since, what we imagine is what one ends up getting implemented as policies. So, she asked for the scenarios to be more encouraging and look a little more broadly, bold in scenarios, and possible cropping to be included as well to check policy implications.

Dr R.C. Jain

He quoted the example of the Atal Bhujal Yojana being implemented in Gujarat, where drip and sprinkler is being introduced, which will help in reducing decline. If no other intervention happens and no other surface water is available, and if possibly drip or micro is introduced in the area, this will lead to a significant reduction in the decline.

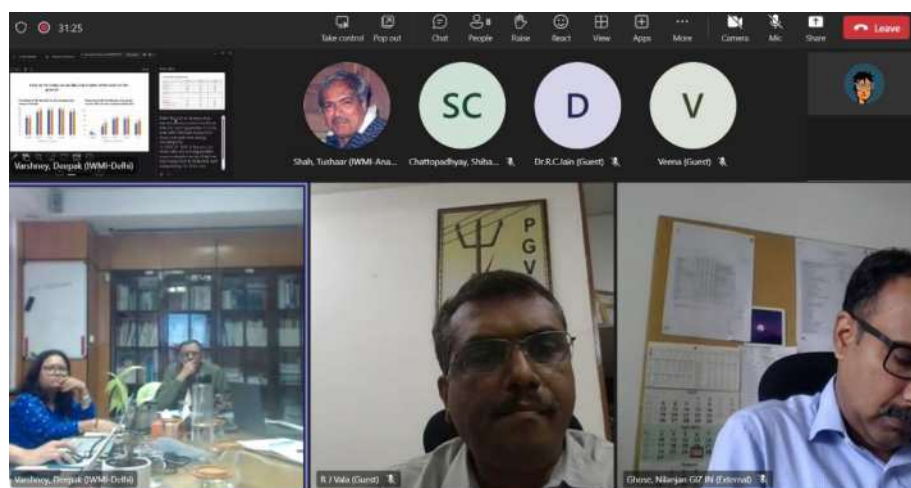
Dr Sikka

He appreciated support from the group, and mentioned that this is work in progress, and that is a part of our work plan, and after that, to put in more scenarios looking into what the government is doing or going to do. And, in addition to that what are the other more futuristic ways of looking at things and accordingly, simulations will be done. The other thing was to build a climate change scenario, since in the last 2-3 days back, we did the C-PMC for Bangladesh where we have already shown the scenario and spoke of ensemble scenario. For the next meeting, more classical scenarios will be added. The idea was to put the simulation models and once that is done, after doing the calibration and validation, then use these simulation models as a tool for doing more futuristic analysis in the planning phase. He spoke about how best to have a more climate resilient investment planning using this kind of tool.

He spoke about the report being launched from the Well Labs, which is a water environment, land and livelihood, organization and spoke about the launch of the organization along with the report that spoke of the scenarios of solarization of irrigation and using an agent-based modeling approach. The study spoke about the analysis done for solarization of irrigation and accounting for the human factor and is being done in Karnataka for Bangalore rural, Pune, Nadia in West Bengal, Bihar.

With that, the session was closed with a round of thanks for all solar colleagues and C-PMC team members.

Meeting notes prepared by Shibani Chattopadhyay, IWMI.



Meeting Screenshot